

~~a laser source that emits light and controls a state of polarization of~~
said light according to said transmission signal; and

said receiver comprising:

a detector that detects light; and

a demodulator that generates a signal on the basis of a state of polarization of detected light to demodulate said transmission signal.

51. (New) The device of claim 50, wherein said transmitter further comprises a sensor that detects light; and

said signal generator generates said transmission signal according to a light detection result of said sensor.

52. (New) The device of claim 50, wherein said laser source comprises a planar emission laser.

53. (New) The device of claim 50, wherein one of said transmitter and said receiver is disposed in a strongly dispersing medium.

54. (New) The device of claim 50, comprising:

a first transmitter/receiver comprised of a first one of said transmitter and a first one of said receiver disposed in a strongly dispersed medium;

a second transmitter/receiver comprised of a second one of said transmitter and a second one of said receiver disposed outside of said strongly dispersed medium;

and full duplex communication is carried out between said first transmitter/receiver and said second transmitter/receiver.

55. (New) The device of claim 53, wherein said strongly dispersed medium is a living body.

56. (New) The device of claim 54, wherein said strongly dispersed medium is a living body.

57. (New) The device of claim 56, wherein said first transmitter/receiver further comprises means for assisting a physiological function on the basis of said transmission signal.

58. ~~(New) The device of claim 56, wherein said second transmitter/receiver generates a transmission signal on the basis of a received signal transmitted from said first transmitter/receiver.~~

59. (New) The device of claim 50, comprising:

a first transmitter/receiver comprised of (a) said transmitter, and (b) a photo detector that outputs a signal corresponding to an intensity of a received light, said first transmitter/receiver being disposed in a strongly dispersed medium;

a second transmitter/receiver comprised of (a) a light emitting device that modulates an intensity of light and emits said light as a transmission signal, and (b) said receiver, said second transmitter/receiver being disposed outside of said strongly dispersed medium;

and full duplex communication is carried out between said first transmitter/receiver and said second transmitter/receiver.

60. (New) The device of claim 50, wherein;

a first transmitter/receiver comprised of (a) a light emitting device that modulates an intensity of light and emits said light as a transmission signal, and (b) said receiver, said first transmitter/receiver being disposed in a strongly dispersed medium;

a second transmitter/receiver comprised of (a) said transmitter, and (b) a photo detector that outputs a signal corresponding to an intensity of a received light, said second transmitter/receiver being disposed in a strongly dispersed medium;

and full duplex communication is carried out between said first transmitter/receiver and said second transmitter/receiver.

61. (New) A light communication device comprising a transmitter and a receiver for physiological use to carry out communication using light between said transmitter provided inside a living body and said receiver provided outside of said body;

~~said transmitter comprising:~~

~~a sensor that detects information about said body;~~

a signal generator that generates a transmission signal on the basis of said detected information; and

a laser source that emits light and controls a state of polarization of said light according to said transmission signal; and

said receiver comprising:

a detector that detects light;

a demodulator that generates a signal on the basis of a state of polarization of said detected light to demodulate said transmission signal;

a display that displays said information represented by said demodulated signal; and

an attaching member that attaches said detector in a position that allows detection of light transmitted from said transmitter.

62. (New) A light communication device comprising a first transmitter/receiver and a second transmitter/receiver for physiological use to carry out communication using a light between said first transmitter/receiver provided inside a living body and said second transmitter/receiver provided outside of said body;

said first transmitter/receiver comprising:

an assisting device that detects information about said body and operates according to an input signal to assist a physiological function;

a signal generator that generates a first transmission signal on the basis of said detected information; and

a laser source that emits a light and controls a state of polarization of said light according to said first transmission signal; and

said second transmitter/receiver comprising:

a detector that detects light;

a demodulator that generates a signal on the basis of a state of polarization of said detected light to demodulate said first transmission signal;